

Progressive pulmonary tuberculosis associated with bronchial dilatation: a clinical image

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Abstract

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Abstract

This clinical image presents unexpected bronchial dilatations with radiographic images suggestive of progressive pulmonary tuberculosis. The aim is to remind the value of thoracic imaging in the early diagnosis of bronchopulmonary pathologies to improve the prognosis of patients.

Case presentation

A 24-year-old man consulted for cough and exertional shortness of breath. He had no particular past history other than smoking at 5 pack-years, weaned for 5 months. His illness began three years earlier by productive wet coughs with whitish sputum, sometimes abundant, which evolved in a context of impaired general condition with asthenia, anorexia, weight loss of 10 kilograms, and intermittent fever (not quantified). He has

not had any previous investigations. On admission, the chest X-ray revealed bilateral, diffuse and polymorphic lung lesions (Figure 1).

What is your diagnostic hypothesis?

It was a progressive pulmonary tuberculosis associated with bronchial dilatation.

Indeed, the sputum examination for acid-fast bacilli was positive. Furthermore, the cyto-bacteriological examination of the sputum revealed a bacterial superinfection with *Staphylococcus* sp. The human immunodeficiency virus serology was negative. The thoracic CT scan, performed to confirm the dilatation of the bronchi and to eliminate differential diagnoses, showed diffuse bronchial dilatations in the left lung, in varicose and sometimes cystic forms (Figure 2A) associated with a large excavation with a thick wall, occupying almost the entire upper lobe, suggestive of tuberculosis cavity. On the right, localized cylindrical bronchial dilatations were noted, associated with micronodular opacities with a tendency to coalescence in the upper lobar part, giving the typical budded tree appearance of pulmonary tuberculosis (Figure 2B).

Discussion

The definitive diagnosis of pulmonary tuberculosis is bacteriological. However, clinicians should consider chest radiography in the management arsenal to assess the extent of associated lesions in order to optimise treatment [1].

Bronchial dilatation is a potentially serious and irreversible clinico-radiological entity. They have many causes, dominated by tuberculosis infections in highly endemic countries. However, they can be pre-existing to tuberculosis, as probably in our case. In any case, bronchial dilatation worsens the prognosis of the patient, who will be at risk of frequent, sometimes disabling exacerbations. Management is essentially based on stopping smoking, preventive and/or curative treatment of bacterial superinfections, and more rarely on surgical removal [2].

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Conflict of interest

The authors declare no conflict of interest.

Ethics statement

Not applicable

Consent for publication

A written informed consent was obtained from the patient to allow us to publish a report of his case for educational purposes.

Authors' contributions

All authors contributed to drafting the manuscript and its critical revision, and approved the final version of the manuscript.

Data availability statement

The data that support the findings of this study are not publicly available due to privacy restrictions. The data are available on reasonable request from the corresponding author.

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Legends

Figure 1: Chest X-ray showing on the left lung field, a large apical excavation (white arrow), with a more or less thick wall, associated with a heterogeneous retractile opacity, occupying the rest of the lung field, containing images of bronchial clearness (black arrow), of increased calibre, of a roughly rounded shape, with a thick wall, and on the right lung field discrete, more or less diffuse micronodular opacities.

Figure 2A: Chest CT scan in axial view on parenchymal window, showing varicose and cystic forms of bronchial dilatations in the left lung.

Figure 2B: Chest CT scan in axial view on parenchymal window revealing localized cylindrical bronchial dilatations (yellow arrow) associated with micronodular opacities giving the appearance of a budded tree (yellow circle) in the right lung.



